

Fig. 1

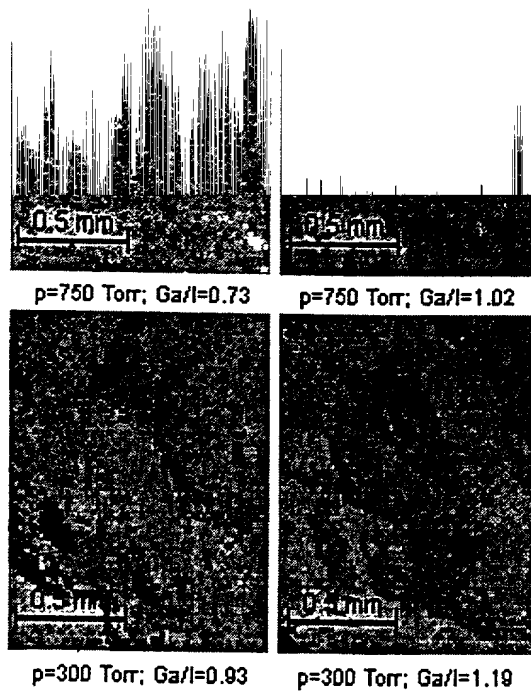


Fig. 2. The surfaces of some samples grown at different conditions under the same magnification.

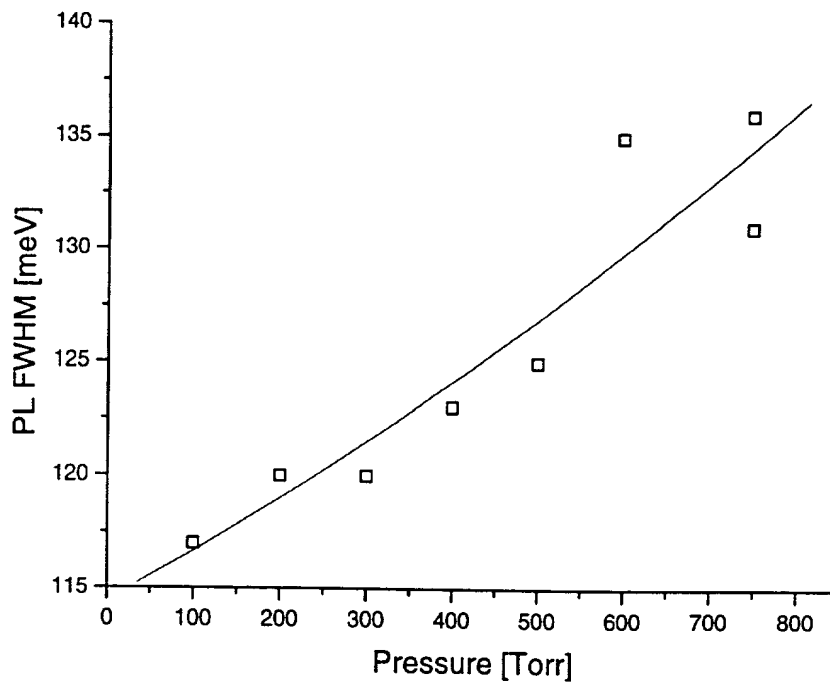
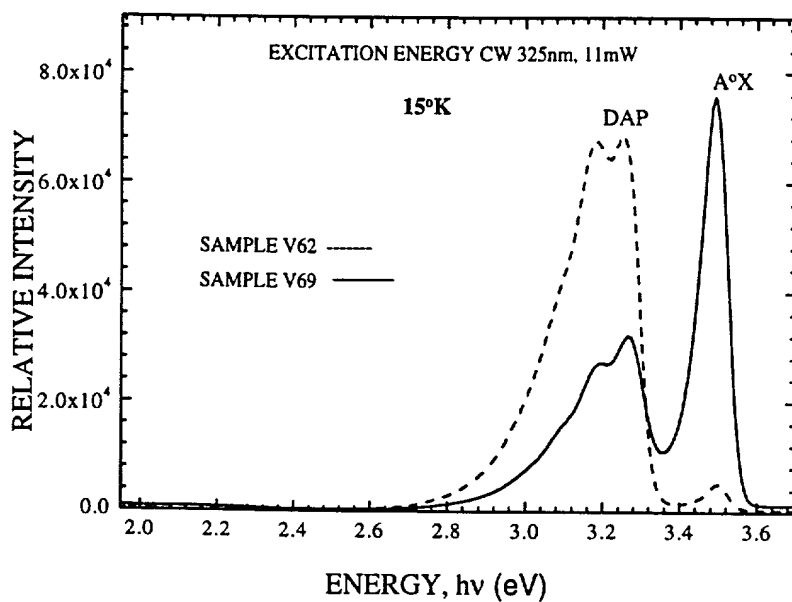
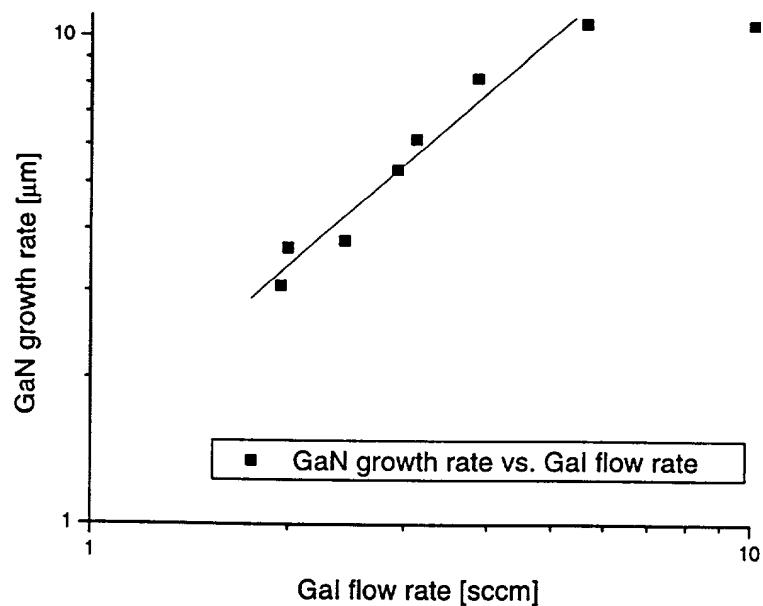


Fig. 3. The room temperature PL FWHM as a function of the ambient pressure.



**Fig. 4.** Low temperature PL spectra of GaN layers grown by IVPG with  $H_2$  carrier gas (V69 with Aeronex purifier).



**Fig. 5.** The growth rate as a function of GaI flow rate